

December 2021

## Stepping into a Brighter Future

Edwin N. Torres

*University of Central Florida*, [edwin.torres@ucf.edu](mailto:edwin.torres@ucf.edu)

Tingting (Christina) Zhang

*University of Central Florida*, [tingting.zhang@ucf.edu](mailto:tingting.zhang@ucf.edu)



Part of the [Benefits and Compensation Commons](#)

Find similar works at: <https://stars.library.ucf.edu/rosen-research-review>

University of Central Florida Libraries <http://library.ucf.edu>

This Article is brought to you for free and open access by the Rosen College of Hospitality Management at STARS. It has been accepted for inclusion in Rosen Research Review by an authorized editor of STARS. For more information, please contact [STARS@ucf.edu](mailto:STARS@ucf.edu).

---

### Recommended Citation

Torres, Edwin N. and Zhang, Tingting (Christina) (2021) "Stepping into a Brighter Future," *Rosen Research Review*. Vol. 2: Iss. 3, Article 9.

Available at: <https://stars.library.ucf.edu/rosen-research-review/vol2/iss3/9>

# STEPPING INTO A BRIGHTER FUTURE

## Wearable tech and employee wellness programs

The hospitality sector presents a range of unique workplace challenges, which can affect the implementation and success of wellness initiatives. In a recent study, Dr. Edwin N. Torres and Dr. Tingting Zhang from UCF Rosen College of Hospitality Management conducted a wellness intervention incorporating a wearable device, with the aim of improving various aspects of hotel employee wellness. The results from the study showed a range of benefits following the two-week intervention, both to employees and their employers. However, the authors also noted key drawbacks which should be taken into account in the design of any future employee wellness programs.

The researchers were keen to quantify the effect of technology-based interventions specifically.

A recent study by UCF Rosen College's Dr. Edwin Torres and Dr. Tingting Zhang shines a light on the impact of wearable technology on employee wellness programs (EWP). Their research specifically involves employees in the hotel industry, who have a unique set of work circumstances and challenges. Results were promising in several key wellbeing areas, yet one aspect of wellness was found to be too great a challenge for their intervention without making wider changes to working conditions.

### EMPLOYEE WELLNESS PROGRAMS

We are now at a point where industry and society recognise the importance of promoting wellbeing among the workforce. Responding to increasing healthcare costs and developing greater social responsibility, employers tend to recognise a need for EWPs. They are regarded as important for fostering wellbeing among

employees. This results in increased budgets for EWPs, as businesses recognise that promoting wellness can help to improve work productivity and performance.

Indeed, in reviewing the existing literature, Torres and Zhang found evidence that promoting employee wellness leads to business benefits, including reduced spending on healthcare, reduced absenteeism, fewer workplace accidents, and improved working relationships. Furthermore, EWPs send the message to employees that their organization cares about their wellbeing.

### HEALTH AND WELLBEING RISKS IN HOSPITALITY

Hospitality is a particularly challenging setting in which to establish an EWP due to the nature of the industry and individual job roles. However, this also makes implementing EWPs in the hospitality sector all the more important. The very nature of the work means that there

is a higher than average rate of injury. For example, among housekeeping staff there is a rate of injury of 7.9 employees per 100, and among restaurant cooks there is a rate of acute trauma of 4.0 per 100.

Hospitality is also associated with high staff turnover, stressful work, low pay, and shift work, all of which have knock-on effects on sleep, susceptibility to metabolic diseases, and issues surrounding work-family balance. Job insecurity is a common concern for individuals working in the hospitality sector. As irregular hours are common and rates of pay tend to be low, this leads to financial insecurity.

### WHY EWPs ARE IMPORTANT IN HOSPITALITY

Previous studies on EWPs demonstrate wide ranging benefits, including reductions in: health insurance claims, sick leave, mental health issues (depression, stress, and anxiety), and injuries. These benefits also include

increased self-control, cardiovascular activity, job satisfaction, productivity, and employee relations. Yet while the benefits of EWPs have been widely discussed in previous research, Torres and Zhang note a need to quantify the effect of technology-based interventions specifically, such as wearable devices like the Fitbit. They recognized that in the uniquely challenging work environments of the hospitality sector, technology could help to facilitate health habits.

The researchers found a range of demographic and social factors influencing participation in EWPs in the hospitality sector, noting that those

DEVICES LIKE THE FITBIT CAN POSITIVELY IMPACT A RANGE OF WELLBEING FACTORS, INCLUDING INCREASING DAILY STEP COUNTS.

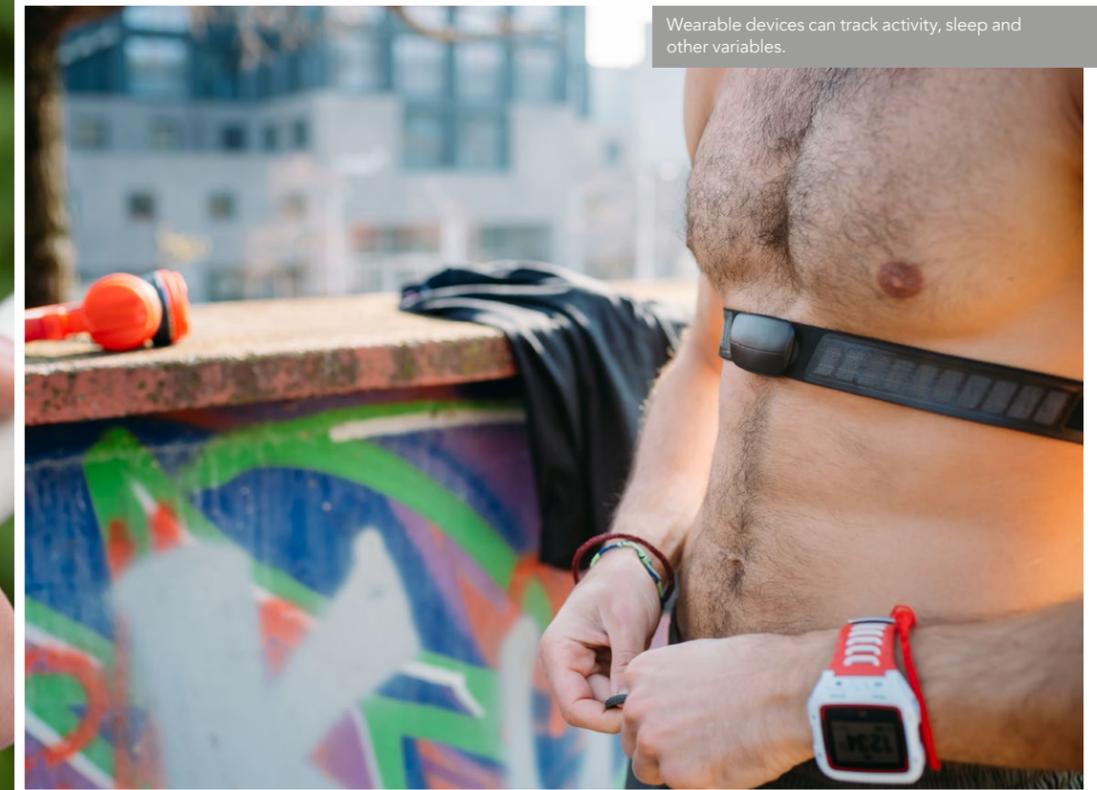
least likely to participate are those most likely to benefit. Barriers to participation include a lack of time, incentive, and convenient location, while other factors influencing participation include co-worker, supervisor, and union influence, as well as culture, family situation, and workplace policies.

### INTEGRATING TECHNOLOGY INTO EWPs

The benefit of incorporating new technologies into EWPs is that it allows researchers to quantify health behaviors. Wearable devices like the Fitbit, for example, allow for the tracking of activity, sleep and other variables. This leads to improvements in productivity and wellbeing, while also helping to prevent injury.

Incorporating technology in general has been shown to lead to reductions in weight, body mass index, and waist circumference. As this technology has advanced into wearable versions, newer research suggests that devices

Wearable devices can track activity, sleep and other variables.





Respondents were asked how often they exercise as well as other subjective measures such as how much water they drank or how often they counted calories.

### HOW THE RESEARCH WAS UNDERTAKEN

In carrying out their research, Torres and Zhang recruited participants with a range of job roles, from a range of hotel settings in Florida, including international chains, private hotels, holiday resorts, and budget hotels. Their objectives were to monitor the effect of EWPs which incorporated Fitbit use on health improvements of hotel workers, and to understand the effect of those programs on a range of metrics, including employee engagement, commitment to the organization, plans to leave their job, and job satisfaction.

were instructed to wear at all times except during charging. The device tracked their steps, distance, calories, floors climbed, active minutes, hourly activity, and sleep quantity and quality. They also received a QR code so that they could record their daily food consumption in a convenient mobile app. The researchers compared the data from the beginning to the data at the end to determine whether there were any changes.

Both objective measures, such as step count and sleep duration, and subjective measures, determined by survey questions such as,

increasing each day during the two-week study period. Additionally, calories consumed gradually declined while consumption of 'healthy food' (defined, for the purposes of the study, as 'food that is high in fiber, natural vitamins, and other nutrient elements') gradually increased. Employee engagement also increased significantly, along with job satisfaction, and organizational citizenship behaviors, while employees' plans to quit were significantly reduced.

Sleep, however, remained unchanged by the intervention. Torres and Zhang suggest that this is because hospitality employees' sleep is affected by their shift patterns and working conditions. Furthermore, it is difficult for businesses to make significant changes in these areas when they already struggle to find staff and compete with other businesses.

### IMPLICATIONS FOR FUTURE INTERVENTIONS

The authors suggest that wearable technology is one of several tools which can be used cooperatively to support employee wellness, improving employee engagement, reducing staff turnover, and increasing goodwill and staff retention. They note that EWPs should include improvements to the work environment (including work design, scheduling, and minimising workplace stressors).

Torres and Zhang's research adds to the body of literature demonstrating the positive effects of EWPs on the health behaviours of hospitality employees, and the knock-on benefits to businesses. These include reductions in absenteeism and health spending leading to a positive return on investment in the wellbeing of their employees. Specific benefits of programs involving wearable devices include encouraging physical activity, raising awareness, and encouraging social connection among workers.

Wellness programs succeed on the basis of employee engagement. Therefore, the authors suggest that employers may reduce barriers to participation by allowing time, offering incentives, and providing more than one location for taking part. They highlight the fact that the specific and varied needs of workers in the hospitality industry must be taken into account, such as working patterns and levels of activity.

'When you eat, how often do you calculate the calories of your meal?', 'How often do you drink water during the day?', and 'How often do you exercise, such as going to the gym, doing Zumba, doing yoga, etc.?', were used to measure health improvement.

### THE RESULTS OF THE STUDY

Torres and Zhang found step count to be an important metric demonstrating participants' activity levels, with counts gradually

## LACK OF DATA PRIVACY IS A KEY DRAWBACK, AS DATA COULD BE USED FOR NON-WELLNESS PURPOSES.

After analysing previous research to determine an appropriate sample size and study duration, they observed 30 participants for 14 consecutive days. Most were female (63%), had hourly, entry-level jobs (47%), and were aged 25 to 34 (47%).

At the beginning and end of the intervention period, participants were surveyed as to their work attitudes and behaviors, and health. They were also given a Fitbit Charge 2, which they

# RESEARCHERS IN FOCUS

## RESEARCH OBJECTIVES

Dr. Edwin Torres and Dr. Tingting Zhang investigate the use of wearable technology in employee wellness programs in the hotel industry.

## REFERENCES

Torres, E., Zhang, T. (2021). The impact of wearable devices on employee wellness programs: A study of hotel industry workers. *International Journal of Hospitality Management*, [online] 93, 102769. <https://doi.org/10.1016/j.ijhm.2020.102769>.

## PERSONAL RESPONSE

### What changes would you make to your intervention when designing future wellness interventions within the hospitality industry, and why?

Future interventions can target a wider array of wellness aspects. This particular intervention focused on how technology can impact physical wellness via technology. Hospitality employees can also benefit from interventions which tackle issues such as stress management and financial wellness. Furthermore, changes in job design can help target other areas including occupational/professional wellness. Future studies can also employ different technologies to track movement and reduce risk of injury.

## Dr. Edwin N. Torres



Dr. Edwin N. Torres is an Associate Professor at the University of Central Florida (UCF). Prior to joining UCF, he obtained a Ph.D. in Hospitality Management from Purdue University. He has several years of experience in the hotel, restaurant, and financial industries. His research focuses on the areas of consumer and organizational behavior.

**A:** 9907 Universal Blvd., Orlando, FL 32819, USA  
**E:** [Edwin.torres@ucf.edu](mailto:Edwin.torres@ucf.edu) **T:** +1 407.903.8103  
**W:** <https://hospitality.ucf.edu/person/edwin-torres/>

## Dr. Tingting Zhang



Dr. Tingting (Christina) Zhang is an Assistant Professor at Rosen College of Hospitality Management, University of Central Florida. Her research interests include co-creation, social media marketing, mobile technology, smart technology, and customer engagement. Dr. Zhang holds a Ph.D. and master's degrees in Consumer Sciences from the Ohio State University, OH, U.S.A. And a bachelor's degree in Tourism Marketing from Beijing International Studies University, Beijing, China.

**A:** 9907 Universal Blvd., Orlando, FL 32819, USA  
**E:** [tingting.zhang@ucf.edu](mailto:tingting.zhang@ucf.edu) **T:** +1 407.903.8195  
**W:** <https://hospitality.ucf.edu/person/tingting-zhang/>



Those taking part in the study increased their consumption of 'healthy' food.